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ABSTRACT

A navigable map database, stored on a computer-readable medium and used with a navigation application program, includes data which are spatially parcelized into a plurality of parcels. Associated with each of the plurality of parcels is a first index which associates the area represented by the data in the parcel with a plurality of sub-areas formed of the area. Also associated with each of the parcels is a second index associating each of the data in the parcel with at least one of the sub-areas. Further disclosed is a method for producing a navigable map database which is parcelized into a plurality of parcels, wherein each of the plurality of parcels includes a first index which associates the area represented by the data in the parcel with a plurality of sub-areas formed of the area and a second index associating each of the data in the parcel with at least one of the sub-areas. Also further disclosed are a program and method for finding data in one or more parcels that match a spatial search criterion using a navigable map database that is parcelized into a plurality of parcels, wherein each of the plurality of parcels includes a first index which associates the area represented by the data in the parcel with a plurality of sub-areas formed of the area and a second index associating each of the data in the parcel with at least one of the sub-areas. The program and method use the first and second indices to identify which of the data in at least one of the plurality of parcels satisfy the spatial search criterion.